Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554
26 July 2003

In the Matter of	)	
Inquiry Regarding Carrier Current	)	
Systems, including Broadband over	)	ET Docket No. 03-104
Power Line Systems	)	

REPLY COMMENTS OF CORTLAND E. RICHMOND, Jr.
to
Comments of Florida Power and Light Company dated 2 July 2003

These are Reply Comments of Cortland E. Richmond, Jr., to Comments of Florida Power and Light Company, in this document referred to as "FPL," in the matter above, dated 2 July 2003.

Writer has been involved in EMC and EMI engineering since 1983, spent 21 years in the United States Army working with airborne and ground communications equipment, and has been an Amateur Radio operator since 1958.

These replies take the form of excerpts from FPL's original comment, noted as "Comment," followed by reply remarks, noted as "Reply." Each Comment and Reply is annotated by a Roman numeral. Replies commence below.

I

Comment:
BPL Interference is a Low Risk
Based on the following, FPL believes that BPL does not pose significant risks for unintended high frequency radiations that will interfere with consumer devices, amateur radio operators, or other forms of commercial communications (television, radio, mobile radio, etc.) :

Reply:
FPL ignores studies, simulations, and the results of firms overseas who have attempted to provide similar services. BPL carries a high risk of harmful interference to radio services in the spectrum it might use. It is to be expected of each reasonable person that he will acquaint himself with the implications of a proposed course of action and take account of the example of others who have tried the same thing. A public utility should do at least that much, if not more.

II

Comment:
Equipment vendors *w i l l* FCC-certify their access and in-home *BPL* technologies. Many BPL vendors have now completed their extensive FCC compliance certification and in turn can now affix the FCC stickers on the access BPL equipment. Vendors also design their implementation based on meeting existing FCC radiated emissions compliance requirements. In addition, BPL vendors have demonstrated sincere efforts to ensure that their technology, provisioned as an unintentional radiator, does not interfere with FCC-regulated radio bands and will indeed meet FCC Part 15 requirements.

Reply:
FPL here seems to place responsibility for controlling interference on equipment vendors. BPL devices may indeed presently comply with Part 15. However it should be noted that as yet no FCC test methods exist specific to the peculiar characteristics of BPL, and that, when the equipment is connected to FPL's outside plant, it will not be the equipment which radiates, but FPL's wiring.

III

Comment:
Consumer products are *FCC* Part *15* certified. The BPL vendors that FPL has or presently is considering testing use FCC certified WiFi (802.11b) or HomePlugTM 1.0 compliant bridges, routers, and adapters from companies such LinkSys, NetGear, and Siemens.

Reply:
This is not relevant to the NOI. FPL must use compliant equipment; no other is lawfully marketed to the consumer. However, it is worth noting that the PhonexTM modems which caused so much harmful interference at 3.52 MHz a few years ago were all Part 15 compliant. FPL appears to rely a great deal on Part 15, a reliance the writer, from professional and other experience, knows is misplaced.

IV

Comment:
Powerline carrier solutions. FPL has deployed one of the largest powerline carrier based solutions in the United States, utilizing TWACS technology from DCSI for a major demand side management solution. Our prior testing, and that of other companies, has indicated there is no impact on the operation of this system by the introduction of BPL technology.

Reply:
FPL's existing PLC system is not subject to the many hundreds of transmitters a BPL system would have to live with. FPL use of BPL would not enjoy even the tacit protection the Commission has afforded low-frequency PLC, while remaining liable for harmful interference it might produce.

V

Comment:
(Footnote 5)
FCC Order 97-Section 157 essentially places the burden on BPL opponents to justify why a new entrant or technology that may provide more affordable telecommunications to a broader base of customers, should not be approved. FPL believes that arguments voiced by amateur radio forums do not meet this burden, and remain unsubstantiated and speculative without direct evidence that BPL vendors' technologies cause interference in excess of approved limitations established by FCC guidelines.

Reply:
FPL ignores good and sufficient evidence, studies and recent experience that contradict its assertions no interference would be produced by BPL. Justification has already been provided, both in comments to this NOI and in extant technical papers, and measurements from overseas sites, why BPL as presently envisaged should not be approved. The writer is reminded how a similarly optimistically narrow view contributed to the infamous California power crisis. The Commission should not approve BPL in its present form.

VI

Comment:
FPL believes that existing FCC Part 15 radiated compliance rules sufficiently govern both access and in-home BPL technologies. FPL also supports elimination of conducted limits, as radiated emissions are the true indications of interference potential.

Reply:
ARRL, among others, has shown the inadequacy of existing Part 15 radiated limits for protecting radio services in the spectrum being considered. FPL wishes to be exempted as well from limits on conducted current. However, FPL would, should BPL be deployed, be in a position to introduce conducted radio signals into the residential environment which exceed levels the Commission has already determined sufficient to cause harmful interference. To prevent harmful interference, then, the Commission should not exempt BPL from 15.107, but should remove the exemption carrier current devices presently enjoy above 1.705 MHz.

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The writer desiring that the Commission examine Florida Power and Light Company's comments with the above in mind, these Reply Comments are respectfully submitted,

Cortland E. Richmond, Jr., KA5S, 23 July 2003